National Tsunami Hazard Mitigation Program

Hazard Assessment

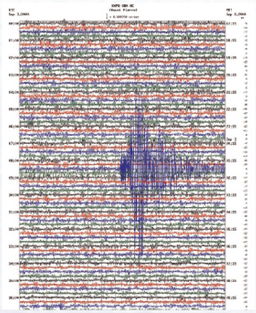
Maps identifying the areas of likely tsunami flooding for at-risk communities will be constructed to guide local tsunami hazard planning. The tsunami inundation map for Rockaway Beach, Oregon, shown here, was created using a combination of numerical models and tsunami scenarios.

The Center for **T**sunami **I**nundation **M**apping **E**fforts was created to assist Pacific States in the development, maintenance, and upgrading of maps which identify areas of potential tsunami flooding.**TIME** is located at NOAA's Pacific Marine Environmental Laboratory in Seattle, Washington.

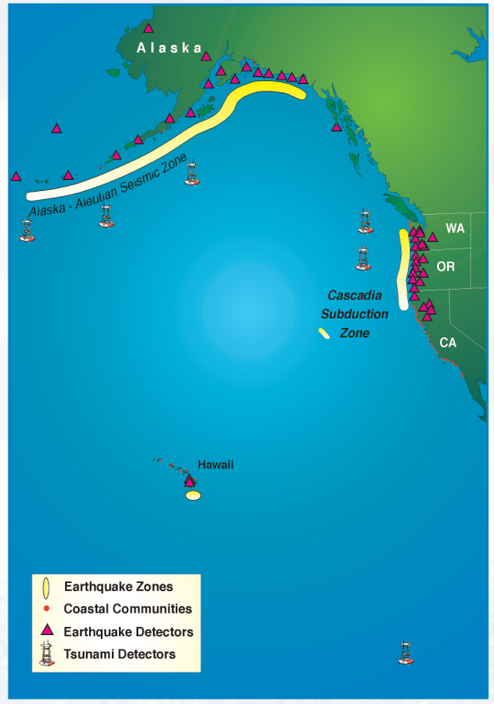
- ***Quantative Impact***
  - Inundation Maps for 122 Communities
  > 1.6 million at-risk residents
  - Evacuation Maps for 23 Communities
- ***Qualitative Impact***
  - Improved Collaboration of R&D and EM Communities
  - Improved Planning
  - Improved Education and Preparedness
  - Improved Survival

Earthquake Detection

Broadband Seismometer



Warning Guidance

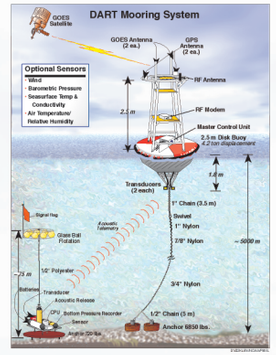


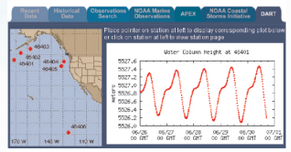
Real-time instruments to detect earthquakes and tsunamis

Improve seismic networks: Impacts

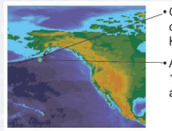
- Earthquakes within U.S.- reduced time to determine location and magnitude from 8 to 2 minutes
- Earthquakes outside U.S.-reduced time to locate from 8-16 minutes to 1-12 minutes and time to determine magnitude from 5-55 minutes to 2-20 minutes

Tsunami Detection

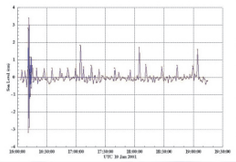




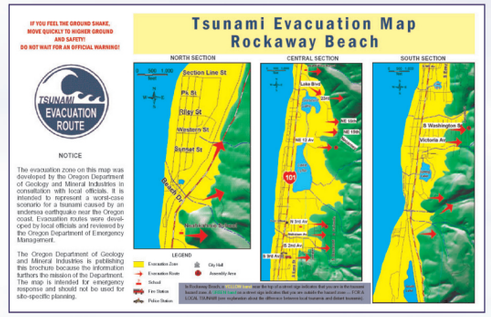
Tsunameter Verification



- On 10 Jan 2001 a magnitude 6.9 earthquake occurred at 0703 (L) about 70 miles SW of Kodiak, Alaska.
- At 0711 a DART buoy located at 51°N and 157 °W was triggered by the seismic wave and began transmitting 1 minute data
- By 0713 these data were plotted on the web site and were closely observed by the Warning Center and showed there had been no tsunami generated.



Mitigation



Two west coast surveys (1994 & 2001) - a few findings

- Messages: appropriate reaction increased from 41% to 83%
- 75% indicate improvements since 1994
- 88% cited better planning and coordination as a factor for improvements
- Future: emphasize education and technology